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ABSTRACT OF THE DISCLOSURE

A method for the treatment of cancer is disclosed which is capable of directing supra-lethal doses of radiation, called Hot-Spots, virtually exclusively to the cancer. The present invention involves a multi-step therapy process and includes a class of novel chemical agents. In accordance with the present invention, it was discovered that soluble precipitable materials can be made to accumulate as non-digestible precipitates in the extra-cellular fluid in the cancer region as a result of non-mammalian enzyme action. Precipitate accumulation is achieved by the prior administration of a bispecific reagent with a non-mammalian enzyme moiety and a targeting agent capable of binding to non-endocytosing receptors of target cancer cells. A soluble radioactive toxic therapeutic agent is then administered, the soluble toxic therapeutic agent being adapted to be converted by the non-mammalian enzyme moiety of the bound bispecific reagent into a new form which is retained adjacent to the target cancer cells for an extended period of time, thereby generating Hot-Spots which non-selectively kill all cells in the cancer region adjacent to the bispecific reagent.